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Lorry-trailer combination braking system electronic control

- with trailer brakes adapted to unit braking mode to minimise drawbar forces

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Number of Countries: 004 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
DE 4438252	A1	19960509	DE 4438252	A	19941026	199624 B
FR 2726242	A1	19960503	FR 9512512	A	19951024	199625
JP 8207738	A	19960813	JP 95278066	A	19951025	199642
US 5588716	A	19961231	US 95548025	A	19951025	199707
DE 4438252	C2	19980709	DE 4438252	A	19941026	199831

Priority Applications (No Type Date): DE 4438252 A 19941026

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4438252	A1	11		B60T-013/66	
JP 8207738	A	9		B60T-008/58	
US 5588716	A	11		B60T-008/18	
FR 2726242	A1			B60T-008/18	
DE 4438252	C2			B60T-013/66	

Abstract (Basic): DE 4438252 A

the brake circuit on the towing vehicle is electronically controlled and provides a signal which is used to control the trailer brakes. By matching the brake pattern of unit and trailer the braking forces on the drawbar are minimised. The brake pattern of the towing unit is controlled wrt. axle loading etc.

During braking the brake control system monitors the braking response of the total unit as well as that of the towing unit. This enables the processor control to compute the correction signals for the trailer brakes. For conventional trailer brakes the braking signals are hydraulic or pneumatic.

ADVANTAGE - Improved braking control, more stable braking.

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Abstract (Equivalent): US 5588716 A

Method for braking a towing vehicle and a trailer towed by said towing vehicle, said method comprising:

generating a brake signal (e) for said towing vehicle in response to a driver's action,

generating a brake signal (eTr) for said trailer in dependence on said brake signal (e) for said towing vehicle;

generating a prescribed deceleration (Zdes) for said towing vehicle in dependence on said brake signal (e) for said towing vehicle,

generating an actual deceleration (Zact) for the whole vehicle (towing vehicle and trailer),

generating a correction value K for the brake signal (eTr) for the trailer during braking in dependence on said prescribed deceleration (Zdes) and the actual deceleration (Zact),

correcting the brake signal (eTr) for the trailer during braking by the correction value K, whereby said actual deceleration (Zact) substantially equals to said prescribed deceleration (Zdes),

applying brake pressure at the towing vehicle and the trailer based on the respective brake signals.

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Title Terms: LORRY; TRAILER; COMBINATION; BRAKE; SYSTEM; ELECTRONIC; CONTROL; TRAILER; BRAKE; ADAPT; UNIT; BRAKE; MODE; MINIMISE; DRAWBAR; FORCE

Derwent Class: Q18; X22

International Patent Class (Main): B60T-008/18; B60T-008/58; B60T-013/66

International Patent Class (Additional): B60T-015/46

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): X22-C; X22-P05

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